

# THE LITTLE UNITY.

→\* TENDER, ✦ TRUSTY ✦ AND ✦ TRUE. \*←

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## STONE MASONS.

CORA H. CLARKE.

There are several kinds of caddis-worms which make their cases of grains of sand, gravel, or tiny stones. The largest of these larvæ belongs to the same family as the ruff-coat, and resembles its cousin in face and form. The case, when full-grown, is about the same size and shape as the adult case of the ruff-coat, but is made of gravel stones, rather neatly fitted together, the inside of the case being lined with silk. I have found them in the bottom of the brook where the current was not very rapid. They seemed rather sluggish in their movements, and I think were vegetable feeders. The perfect insects came out early in June, and were of a light yellowish-brown color.

A smaller case than the last, made of fine gravel, or of coarse sand, is sometimes very plentiful in a clear, running brook in the woods. It is about half an inch long, and one-eighth of an inch in diameter, and is slightly curved. The case of the young is more conical or tapering than that of the adult, which is nearly cylindrical. The larva is an active little fellow, having a black face, and over each cheek a yellow stripe, in which the eyes are situated. Early in June, one year, I found, attached to stones in the brook, some little balls of greenish jelly, about as big as a small marble. I put one of these in a bowl of water at home, and soon tiny caddis-worms hatched from it, and making their way out of the jelly proceeded to concoct for themselves some wee cases with grains of sand, which they enlarged as they grew larger. They lived in my aquarium until the next spring, but died while pupating. The larva always keeps the rear end of his case closed by a small stone, but he seems to leave a tiny hole beside the stone to allow a free passage of water through the house. When he pupates he has a stone at each end, but he still must leave a means of entrance for the fresh water which he breathes. The pupa pushes away the stone at the head end when it leaves the case. The perfect insect is dark gray or black, with hairy feelers.

Last spring I found in the same brook another species of caddis-worm, whose case is identical in shape and size with that just described, but can be distinguished from it by being made of finer sand, and by having the rear end of the larval case, and both ends of that of the pupa, closed by a corneous disk, in which is a short, narrow slit to insure a free passage of water through the case. The head of the larva is black, not striped like that of the former species.

Another kind of caddis-worm is very common, walking over stones in a clear, running brook in the woods. I have also found it in a pond. Its case is about three-eighths of an inch long when fully grown, arched on the

back and flattish beneath. The largest of the little gravel stones of which it is composed are placed along each side of the case, usually the two largest are one on each side of the head end. Like the second of the above described species, the larva is protected from attacks in the rear by attaching a small stone to that end of his case, and during the pupa condition there is another stone at the front end also. These stones are so firmly attached that it requires no little strength to push them off, and I wondered how the larva could obtain a fresh current of water, but holding the case up between my eye and the light, I saw, with the aid of a magnifying glass, a little grating just under the edge of the terminal stone. Taking off the stone, I found all round the opening a row of short teeth, looking not unlike the teeth of a moss capsule. Their bases were fastened to the edge of the case, and their tips to the stone. Ventilation at the smaller end was provided for in a similar way. The perfect fly which comes from this larva is of a plain dark gray color.

The scientific name of the first-described species is *Stenophylax*; for the others I can give you neither scientific nor common names, but if you find them yourselves, as I hope you will, perhaps you can invent some names for them—a service for which I shall be very grateful.

## CATERPILLARS IN WINTER.

A large number of caterpillars attain their full growth and change to chrysalis before winter, passing the cold months in torpid sleep; but besides the caterpillars of the purples, which hibernate when half grown, there are many others which hibernate at different times of caterpillar life. Most of the meadow browns, or satyrs, hatch from the egg late in the season, and hibernate before feeding upon anything more than their own egg-shells.—*"Butterflies."*—S. H. Scudder.

## SAVE THE FRAGMENTS.

HARRIET S. TOLMAN.

A group of ladies were sitting in a hotel parlor, and spread out in their midst was a gay patchwork quilt. This and their bright dresses made a brilliant appearance under the light of the chandelier, and so attracted my attention on the piazza, where I was walking up and down, catching glimpses through the windows, that I went in to see what it was all about. I found that this gorgeous quilt, which looked almost as if some benevolent rainbow had come down to earth for useful purposes, was in reality made out of small, odd-shaped pieces of silk, sewed together upon a foundation of cotton cloth. The dear old lady who was exhibiting it, explained that she had made a number of silk quilts of regular patterns, and that these scraps were simply the



leavings, and "had not cost a farthing." Afterwards, she showed the stripe of an afghan which she was knitting out of "odds and ends" of worsted, which also was very pretty in effect. In leaving the room, my eye fell upon a braided rug, such as people make out of woolen rags, and then my thoughts ran back to the story of the dear teacher who lived so long ago, and who, after he had provided a bountiful meal for his listeners, told his followers to "Gather up the fragments, that nothing be lost."

You and I, readers of *LITTLE UNITY*, can moralize on this subject to advantage, I think. Let us take as our monthly motto—

### Save the Fragments.

This can be applied by boys as well as girls, although the illustrations just given are in one department only. The practice of saving pieces of wrapping paper, and picking out the knots in twine, seems a little thing in itself, but it is worthy of being cultivated. Sometimes very busy people, whose time is valuable, cannot afford to do so; they waste more in that way than by letting the articles go; but for most of us, the habit of saving in small things is a right one. Large business houses do not neglect it. I was much struck by this at the desk of an influential office, where I saw the same arrangement of bits of papersaved for memoranda that I had noticed in less important places. It is successful business men who best know the value of trifling things in the right place, and stray moments at the right time.

A great many of the necessities and comforts of life are not so expensive now as in the days when the saying "Waste not, want not" originated, but it still has an element of truth for us; and if we are so fortunate as to have all our reasonable wants gratified, we can change the thought into, "Save so as to give. We are none of us so rich that we can give all that there is a need for in the life immediately about us.

A pin is not so valuable as in the days of the Revolutionary war, when one lady made thirteen answer for all her dressing purposes for a whole year; and a match is not worth so much as at the time when the old-fashioned tinder-box was giving way to the wonders of sulphur; but we still need to practice economies, although in different ways from those of our grandparents. In these days, when little things come comparatively so readily, there is a danger that we shall grow careless in all our habits, and extravagant in our plan of living. We may not need to apply the motto just as our ancestors did, but we do need to remember it in the sense of being careful of little things—of not being wasteful with our resources. There is no one who can afford to be careless, and is not responsible that his possessions receive the best and fullest use that can be made of them.

And further, there is a moral good to come from the thought of this motto. It was, in a great measure, the economy of our ancestors which developed their sterling character, and led to the qualities which have helped to produce the prosperity of their descendants. It is by care in little things that the strong props of character are built.

## THE LITTLE UNITY.

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### TALKING TIMES AND THINGS TO DO.

When the children gathered at our last meeting, and the general chatter began to subside, there came the last words of a private talk, in this wise: "O, well; you have a regular allowance, and of course you can save it up and do nice things with it, Christmas and other times, too." "Not necessarily 'of course,' Carrie," I said, as our talks are altogether free from formal beginnings. "One must first have the wish to carry out independently a purpose of his own, and then gather up a good store of determination and resistance in his mind before he can even *save* his pocket money. Then he must learn wisdom in the spending before he can bring about the 'nice things' he wishes. Boys and girls who live in the country do not have much temptation to spend money, but for those in towns and cities it is very hard, sometimes, to see so many things they want, exhibited for sale all about them, and learn to weigh in their minds the value of this against that, and which will bring the greatest use for the money." "My father always gives me money when I ask him," said Jenny, gaily; "he gave me all I wanted to get my Christmas presents with." "That sounds as if you bought for yourself the presents you received!" Jenny laughed merrily with the rest. "I mean the presents I gave away." "Don't you you think it means the presents your father gave away? It was his money that bought them, and you only pinned your name on them." "Some of them I *thought* of myself, and some mother decided upon. But, truly, I think it is easier to have father keep the money, and then I can get it whenever I ask him." Sally broke out, energetically, "I hate to ask for money whenever I want any small thing! It makes me feel like a little beggar. I'd a great deal rather have my weekly dime and know it belongs to me regularly." "Do you have ten cents a week?" said James. "My allowance is twenty-five cents a month, and I have to put down everything in my account book. If it doesn't balance at the end of the month I have to forfeit half my next month's money." "Your father means you shall know how to handle such matters when you grow up." "Yes, I am a boy." "Girls should know the use of money just as much as boys." "Do you think so?" asks Carrie, in surprise. "Why, mother says girls always get taken care of, and don't need to understand things of that sort. She never did." "How much of the practical interest of living she has missed! She does not realize how much, if she has not tried it. Suppose



you try it for yourself, and we will help you. I think your father would be quite willing." "Oh, yes; he'd laugh, but he wouldn't care." "You said it was easier to let him keep it, and so it is; but if he hadn't learned to keep it until the proper times for its use came, he wouldn't have it to give to you. The temptations to spend money are growing greater all the time, more so than when your fathers and mothers were children, and if you do not learn now how to make your small wants meet your small income, how will you succeed, when you are grown and earning a moderate salary, in making your very much larger wants, and those of the ones who may depend upon you for support, come within your means?" "I am not going to work on salary! I shall be a merchant," decided Harry. "Good! and a successful merchant is especially wise in his buying and selling. His knowledge of the use of money is at the bottom of his success. So if that is your honest intention, we shall see you belonging to the account-book company soon." "I don't think girls are very likely to have to support any one but themselves, and not very often that," said Carrie, dubiously. "Sometimes others, but very frequently themselves; far more generally now than years ago. But if they do not find it necessary to make the money for themselves, they should, none the less, know by experience how to make it go as far as possible in supplying the needs of the family which may be their charge. Some are wise in knowing how to make money, and others in knowing how to spend it. Where there are both kinds of knowledge a family has greatest room for the education of its members, and for giving help and hospitality to others. Each kind requires study, experience and judgment; therefore, she who spends is as honestly at work as he who earns, and thus as self-supporting." "I think I shall try it," said Carrie, thoughtfully, "for I do like to spend money and I know I haven't the least idea how to do it. Jenny, will you begin, too?" "Yes, I'll begin. I'm afraid I shall make sorry work of it though."

#### WITCH HAZEL.

In November and December look for the bloom of this curious shrub. Its blossoms appear long after the blue gentian has faded, while the leaves are falling. They often remain until the branches are covered with snow. Many persons live with the shrub around them for a lifetime without noticing its peculiar habit, they not having been taught what to see. And yet nothing is more charming than the appearance of its flowers, with linear yellow petals, peering at you from snow-laden branches.

A forked twig is sometimes used as a divining rod, from which the common name comes. A man holds in each hand one fork of the twig, the stem upright, and walks about, and it is said that when he passes over a stream of water the twig will bend over and point to the ground, showing where the well should be dug. But I think there are better ways than this to find water. An extract from the bark is often used as a medicine. The name used in books on botany is *Hamamelis Virginiana*.

Petersham, Mass.

L. C.

#### Q. F. U. ST. PAUL, MINN.

The "Q. F. U." Society, of which an early issue of *LITTLE UNITY* (April 16) gave an account, resumed its meetings in December, after the Fair for which all were so heartily at work. Their motto is: "Let's do the best we can." The following is from a prospectus printed last fall which gave account of work past and plans for that to come, in Church, Sunday School and Club. "Last year the "Q. F. U." numbered 121 younger members and twenty-four older members. It will meet, as heretofore, every Saturday afternoon, from 2 to 5:30. The first hour will be given to practice of Sunday School hymns. The second hour to fancy work, sewing and scroll-sawing, for which the younger members will be more carefully than ever, divided into small classes under charge of ladies. The third hour will be spent in impromptu, or nearly impromptu, charades and tableaux, and in playing games. Dancing will probably be omitted this year, except in February, when we mean to give a private masquerade party for the children. In January we hope to give a dramatic entertainment to help furnish the school-room of the Protestant Orphan Asylum."

#### GAMES.

A pleasant game for little children is "Sterio, sterio, stop." A circle is formed, with one blindfolded in the center, who holds a cane with which he makes a stirring motion on the floor and says, "Sterio, sterio, sterio, stop!" while the circle moves slowly around. At "stop," he strikes the floor with the cane, and then holds it out straight. The child standing nearest its end is to take hold of it and answer any questions which the one in the center may ask. If he guesses rightly who is answering, then that one must go into the center and be blindfolded; but if he fails, then the circle moves around once more, and he tries again. The fun comes from the attempts to disguise the voice in answering the questions. H. S. T.

#### "Unity" Sunday School Lessons—Series XII.

#### THE MORE WONDERFUL GENESIS;

OR

#### CREATION UNCEASING.

BY H. M. SIMMONS.

#### LESSON II.

#### THE GLOBES AND THEIR CREATION.

#### "FOURTH DAY."

Genesis I: 14-19.

The "Genesis" story, regarding sun, moon and stars as mere "lights" for the inside of the world-tent, naturally added them late. On the "fourth day," after day and night, sky, seas, land and plants are all created, and the world finished,—then these "lights" are made and hung in the firmament roof,—the last act before the animal inhabitants are added. But we now know that the sun and stars were made before any of these things. We will, therefore, take the "fourth day" first.

#### THE SOLAR SYSTEM.

But before we ask about the creation of the heavenly bodies, let us notice how much more wondrous things they are than the story make



them. Even the earth is much larger than the writer knew, a globe too, with lands and seas on the other side,—a miracle he could not have believed. But the moon shows a greater marvel. So far and large. When two surveyors, a mile apart, see an object in almost the same direction, they know it is far away, and by measuring the difference of direction can tell just how far. But let the surveyors go a thousand miles apart, still both see the moon in almost the same direction,—it is so much farther. By means of instruments they find, however, a little difference, and so learn that the moon is 240,000 miles away, and is another globe, 2,000 miles through.

But the moon is surpassed by the planets. Sailing 1,000 miles shows no change in their direction. Instead of sailing, let the earth's rotation for twelve hours carry you the whole length of its diameter,—still no change, except in one case. Mars at certain times gets near enough so that this movement of 8,000 miles changes its direction a trifle. How much? Not so much as taking a single step changes the direction of a steeple two miles away! Thence the distance of Mars is figured, and its size found larger than that of the moon. The other planets are so much further they have to be measured in other ways. But Venus proves to be about as large as the earth, while four planets are vastly larger. Jupiter is in diameter ten times, and in volume a thousand times, larger than the earth. These planets also have moons of their own, several larger than ours.

But all these planets together are as nothing to the sun. This, instead of a mere light "to light the earth," is in diameter a hundred, and in bulk a million times greater than the earth,—as much as the largest pumpkin is larger than a pea. Instead of a light for the earth, the sun whirls the earth around it, at the rate of nearly eighteen miles a second, and the other planets in like manner. The little "firmament" melts away, and we see moons revolving around planets, and planets around the sun, to make the solar system.

#### THE STARS.

Yet even this sun is but a speck compared with the stars. This old writer thought them of little importance, and in his story of creation gave them only two words in the original. But the stars are other suns, seeming so small only because so far away. Instead of letting the earth's rotation carry you 8,000 miles, let its semi-revolution around the sun move you 180,000,000 miles. How much does this vast voyage change the direction of the stars? The nearest of them, *Alpha Centauri*, is so far away that its direction is not changed so much by this movement of 180,000,000 miles as the direction of that steeple two miles away is changed by your moving the length of your thumb. It takes the very nicest instruments to measure the change. But they do. This nearest star is thus found to be nearly twenty millions of millions of miles away, and giving out three times as much light as our sun. Two other stars are found about twice as far. *Sirius* is three or four times as far away; and, if its light is of the same brightness as our sunlight, must be in volume more than a thousand times larger than our sun. A few other stars can be measured with much uncertainty; but nearly all are too far away to be measured at all. All, however, are plainly suns. Probably each, too, like the sun, is the center of another system of planets. In many cases one or more of these inferior attendants can be seen in the large telescope as a minute point, slowly revolving around its star or sun. From these we infer countless others, which of course we should not expect to see.

Some five thousand of these stars, or suns, can be seen by the naked eye. But this is almost nothing compared to the whole number seen in the telescope, which some now estimate at seventy-five millions. Think of it! More stars than you, counting one every second for ten hours each day, could count in five years. Each of these stars a sun like ours, and probably surrounded by planets like our earth. So does the old world-tent enlarge, and such are its "lights."

#### MORE WONDERFULLY HUNG,

too, than by any fastening to a solid "firmament." Hung by nothing and to nothing! Floating freely, like a boy's balloon,—even more marvelously, for with no air to float them. Strange ships sailing through space so swiftly, yet with no sea to bear or wind to blow them. In the presence of astronomy the old firmament is "rolled together as a scroll," yet the loosened stars do not fall, as the prophet saw them, like leaves or figs. Or rather,—a still greater wonder,—they are forever falling, yet finding their safety in the fall—falling around each other in orbits of eternal order. The moon falling around the earth by the same law as the loosened leaf or fig, and moving over a mile every second. Sun and stars falling around other centers, and some moving twenty miles a second. The earth, too, falling around the sun, and swiftly rolling as it falls. Yet all moving so truly that they are still "signs" "for seasons, and for days, and for years," and for moments, too;—so that by these golden pointers on the dial of the sky the astronomer corrects his clock to the fraction of a second. How much more wonderful than lights fastened to a firmament are these living worlds, fastened by their very falling, and all held and propelled so truly by God's hand of gravity!

#### LESSON III.

### GLOBES AND THEIR CREATION (CONTINUED).

#### THE "FOURTH DAY" STILL HERE.

But wondrous as was the work of that "fourth day," it is still done every day. The divine days never end; creation ever continues. We have but to look up to see the creative hand still moulding globes and hanging them in the heavens.

#### GLOBE-CREATION CLOSE AT HAND.

As you stand looking into empty space the fog begins to form around you. What is it? Watch! Countless little specks of mist suddenly made there, as if by magic; yet the specks all perfect spheres,—dainty worlds, actually created as if from nothing and hung on nothing, right there within touch of your fingers. Then the fog rises and floats away, and you see it is just like any cloud; All day long, above your head, these clouds are forming in the same manner, built up mile upon mile against the blue sky,—countless millions of spheres, created and hung in systems, and all done before your very eyes.

How? The professor tells you that where you saw nothing was really invisible vapor,—widely scattered molecules of water, too fine to be seen by eye or even microscope. But attraction has drawn the invisible molecules together into larger visible mist specks, to make fog and cloud. The same attraction draws the mist spheres together into larger ones; and if these become large enough to overcome resistance, draws them to the earth in rain drops. So by this force of *attraction*, or *gravitation*, the Creator is still moulding, hanging and moving globes by the million in our own atmosphere.

#### GLOBE-CREATION FAR AWAY.

Now look beyond our atmosphere into the depths of space with the telescope. There too you find many hundreds of white spots which the astronomers call clouds, or nebulae, as the word is in Latin. Of course, infinitely larger than ours, millions of miles in extent. These too are thought to have been drawn together by the same *attraction*; out of the far thinner world-vapor, which floats through space as water-vapor does through air. The spectroscope shows they are still in a state of vapor. The same attraction is still working there. In one or two cases astronomers think they trace changes in these nebulae,—not from minute to minute, as in clouds, but from century to century. And even where the slow changes cannot be traced, we seem to see different stages in the process of attraction and condensation. Some nebulae are marked with radiating spirals, as if the matter were moving toward the center, and the movement had begotten a slow rotation,—just as water moving toward an orifice always forms a whirlpool. Some look as if in the rotation a portion were slowly detaching itself to move in an independent orbit around the mother mass,—on the same principle as a drop of water flies from the whirling grindstone, or the grindstone itself flies in pieces if the rotation becomes fast enough. These same processes, if long enough continued, would separate the nebulae into a system of rolling spheres revolving around their various centers. So astronomers think that the same attraction, or gravitation, which out of water-vapor is rounding the rain-drops and sending them to the earth, is in like manner, out of world-vapor, rounding those rolling drops we call stars and suns and planets, and sending them in their orbits as solar systems.

#### THE NEBULAR HYPOTHESIS.

Our own sun and planets and earth seem, from their motions and various evidence, to have been rounded and set rolling in this way. This "nebular hypothesis," as it is called, is not accepted by all, but is by the most and best of scientists. It is not a fancy, as may seem from our short notice, but the earth beneath and heaven above are strewn with facts in its support.

#### A MORE REVERENT RELIGIOUS THEORY.

And how much grander and more religious a thought of creation it gives! For, to the deeper thinker, this attraction that rounds the worlds is only the hidden hand of God. A mediæval painting shows the Creator, on that "fourth day," in the form and dress of a man, sticking sun and moon, like shining wafers, on a solid sky. How much more reverent is science's picture of a Creator, unseen indeed, yet working always and everywhere, from within arm's reach to the farthest sight of telescope, still rounding the spheres, from mist globules that refresh life to mighty globes that support it, and hanging suns and systems through the infinite firmament on these unseen threads of law! It is an infinite and eternal Genesis. The old Bible opens with a beautiful text: "In the beginning God created the heaven and the earth." But the Bible of modern science and faith opens with a far finer one: "*Without beginning and without end, from everlasting to everlasting, God creates the heavens and the earth.*"